

What is claimed is:

1 1. A heat sink assembly with integrated electronics comprising:
2 a cover having at least one side open for exposing an interior cavity,
3 said cover being made of a material having the capability of withstanding high
4 temperatures;
5 at least one hybrid circuit housed in said cavity and having interconnect
6 capability available at said open side of said cover;
7 a bottom for attachment to and sealing of said at least one open side of
8 said cover, said bottom being made from a material having heat sink
9 capabilities and having a plurality of interconnect pins molded therein, said
10 pins providing electrical interconnect capabilities between said at least one
11 hybrid circuit and an external device.

1 2. The heat sink assembly as claimed in claim 1 wherein said
2 cover further comprises a track molded in an edge of said open side, and
3 wherein said bottom has a bead molded therein for interconnection with said
4 track in said open side of said cover.

1 3. The heat sink assembly as claimed in claim 2 wherein an
2 adhesive is applied to said track thereby sealing said bottom to said cover.

1 4. The heat sink assembly as claimed in claim 1 wherein said
2 bottom is cast aluminum.

1 5. The heat sink assembly as claimed in claim 1 wherein said pins
2 are wire bond compatible at one end for connection to said at least one hybrid
3 circuit and said pins are solderable at another end for connection to said
4 external device.

1 6. The heat sink assembly as claimed in claim 1 wherein said
2 sealed cover and bottom are filled with a dielectric gel material.

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1 7. The heat sink assembly as claimed in claim 1 wherein said
2 cover has partitions separating said at least one hybrid circuit from another
3 hybrid circuit housed in said cover.

1 8. A housing for a plurality of electronic components comprising:
2 a heat sink section having at least one opening therein defining a cavity
3 for housing said plurality of electronic components;
4 a bottom section having pins for electrical connection of said plurality
5 of electronic components and an external device;
6 means for attaching said bottom section to said heat sink section
7 thereby fully enclosing and sealing said electronic components in said housing.

1 9. The housing as claimed in claim 8 further comprising a
2 dielectric gel enclosed in said sealed housing.

1 10. The housing as claimed in claim 8 wherein said means for
2 attaching said bottom section to said heat sink section further comprises a
3 tongue and groove attachment between said bottom section and said heat sink
4 section.

1 11. The housing as claimed in claim 10 wherein said tongue and
2 groove attachment further comprises an adhesive for sealing said attachment.

1 12. The housing as claimed in claim 8 wherein said pins are wire
2 bond compatible at one end for connection to said plurality of electronic
3 components and said pins are solderable at another end for connection to said
4 external device.

1 13. The housing as claimed in claim 1 wherein said heat sink cavity
2 has partitions for separating said electronic components.

1 14. A heat sink with integrated electronics comprising:
2 a cast aluminum housing having a cavity therein for housing said
3 integrated electronics, said cast aluminum housing having an open side;
4 a high temperature plastic bottom portion for covering said open side
5 of said cast aluminum housing and sealing said integrated electronics therein,
6 said bottom portion having pins molded therein for making electrical
7 connections between said integrated electronics and an external device.

1 15. The heat sink as claimed in claim 14 wherein said sealed
2 housing has a dielectric gel therein.

1 16. The heat sink as claimed in claim 13 wherein said housing and
2 said bottom portion are attached to each other by a tongue and groove
3 connection.

1 17. The heat sink as claimed in claim 16 wherein said tongue and
2 groove connection is sealed by an adhesive material.

1 18. The heat sink as claimed in claim 13 wherein said bottom
2 portion further comprises means for mechanical connection to said external
3 device.

1 19. The heat sink as claimed in claim 13 wherein said pins are wire
2 bond compatible with said integrated electronics housed inside said cavity and
3 solderable to said external device.